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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/807,912 | 03/24/2004 | Atsunari Tsuda | 9319S-000693 | 3961 |
| 27572 7590 10/02/2007 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303 | | | EXAMINER CHOW, YUK | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/807,912 | Applicant(s) TSUDA ET AL. | |
| | Examiner Yuk C. Chow | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-10,12,13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-10,12,13 and 15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>04/25/2007</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (US Patent 7,098,902) in view of Morita et al (US 2005/0017965 A1).

As to claim 9, Tamura discloses a display drive device comprising: a drive circuit (Fig. 1 (110)) driving a display unit (Fig. 1(100)) in which pixels are formed; a nonvolatile storage circuit (Fig. 1(134)) storing setup information to change a drive voltage (Col. 4 lines 42-47 (grayscale voltage)) to be supplied to the drive circuit (Col. 4 lines 42- 63); a control circuit (Fig. 1(130)) reading the setup information from the nonvolatile storage circuit at predetermined intervals (see Col. 7 lines 26-31); and a voltage supply circuit (Fig. 1(132)) supplying a drive voltage based on the setup information read by the control circuit to the drive circuit (Col. 8 lines 17-32).

However, Tamura does not specifically teach a determination circuit that determines whether a drive voltage is supplied from the voltage supply circuit, and if the determination is negative, re-starts the voltage supply circuit.

Morita discloses a display drive control device, within teaches a determination circuit (Fig. 17(ISR)) for determining operation of the power supply (Fig. 17(PWU)), and

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if the main power supply stops supplying power (hence, negative determination), then restarts supplying power...(see [0078]).

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to incorporate a display drive control device capable of restart a power supply as in Morita, into display device of Tamura, due to the fact the control is done at hardware level, it decreases the system loads by using this circuit independent of the system control (see Morita [0006]-[0007]).

As to claim 15, limitations within are identical to claim 9; therefore same rejection applies as in claim 9.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-6, 8, 10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamura (US Patent 7,098,902).

As to claim 1, Tamura discloses a display drive device (Fig. 1) comprising: a drive circuit (Fig. 1 (110)) driving a display unit (Fig. 1(100)) in which pixels are formed; a nonvolatile storage circuit (Fig. 1(134)) storing screen information indicating a position of a pixel to be driven in the display unit (Col. 3 line 59-Col. 4 line 4); a control circuit (Fig. 1(130)) reading the screen information from the nonvolatile storage circuit (Col. 4 lines 25-32); and a drive setup circuit (Fig. 1) setting a position based on the screen

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information read by the control circuit in the drive circuit (Col 5 Lines 39- 54), the drive setup circuit including an address control circuit (Fig. 2(540)) that controls a driving column of pixels and a reading address Fig. 2(542) for display data (see Col. 4 lines 48-58).

As to claim 2, Tamura discloses a display drive device according to claim 1, wherein the control circuit reads the screen information from the nonvolatile storage circuit in synchronization with a supply of a power voltage from a power circuit which supplies a voltage (see Col. 4 lines 20 – 41).

As to claim 3, Tamura discloses a display drive device according to claim 1, wherein the control circuit reads the screen information from the nonvolatile storage circuit at predetermined intervals (see Col. 7 lines 26-31).

As to claim 4, Tamura discloses a display drive device according to claim 1, wherein the nonvolatile storage circuit stores the display information (see Col. 4 lines 17-38); the control circuit reads the display information from the nonvolatile storage circuit (see Col. 4 lines 17-38); and the drive circuit displays the display information read from the control circuit on the display unit (see Col. 4 lines 17-38).

As to claim 5, Tamura discloses an electro-optical device (Fig. 1, see Col.2 lines 17-21, Col 3 lines 59-65) comprising the display drive device according to claim 1.

As to claim 6, Tamura discloses an electronic apparatus (Col. 4 Lines 37-41, also see Fig. 1) comprising the electro-optical device according to claim 5.

As to claim 8, Tamura discloses a method of a display drive device comprising the steps of: reading screen information from a nonvolatile storage circuit which stores

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the screen information indicating a position of a pixel to be driven, in a display unit in which pixels are formed; setting a position based on the read screen information; driving the position set in the display unit; controlling a driving column of pixels (Fig. 2(540)) and reading address for display data (Fig. (542)) with a address control circuit (Fig. 2(550)).

As to claim 10, Tamura discloses a display drive device according to claim 9, wherein the control circuit receives instruction information for instructing the reading of the setup information and reads the corresponding setup information (Col. 4 lines 25-32).

As to claim 12, Tamura discloses an electro-optical device (see title) comprising the display drive device (Fig. 1) according to claim 9.

As to claim 13, Tamura discloses an electro-optical device (see title) comprising an electronic apparatus (Col. 4 Lines 37-41) according to claim 12.

Response to Amendment

3. Applicant's arguments filed 07/19/2007 have been fully considered but they are not persuasive. Applicant asserts, "Tamura is silent, however, as to a drive setup circuit that sets a position based on the screen information read by control circuit in a drive circuit." However, examiner respectfully disagrees. In particular, Tamura does show a memory device (see Tamura Fig. 1(134)) stores various items of information used for operating the electro-optical device (see Tamura Col. 4 lines 48-58).

Applicant also submits, "Tamura is likewise silent as to a drive setup circuit that includes an address control circuit that controls a driving column of pixels and a reading

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address for display data." Nonetheless, Tamura describes a column address control (Fig. 2(540)), which controls a reading address (i.e. I/O buffer, see Fig. 2(542)). Finally, one ordinary skill in the art must realize that every display device must have "a drive setup circuit", despite the different terminologies could be used.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuk C. Chow whose telephone number is 571 270-1544. The examiner can normally be reached on 8-6 M-TH E.T..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YC
09/26/2007


AMARE MENGISTU
SUPERVISORY PATENT EXAMINER